"I work with lots of scientists, they drive me crazy”

—Western US water resources practitioner, 2010

Daniel Ferguson
RISA PI Meeting
Charleston, SC
January 13, 2015

THE UNIVERSITY OF ARIZONA

CLIMAS
Climate Assessment for the Southwest

my question is:

How can we treat the causes rather than symptoms of mismatch between research we do and research that gets used in policy?


We are here
I’m going to try to get us here


We are here
But we might end up here

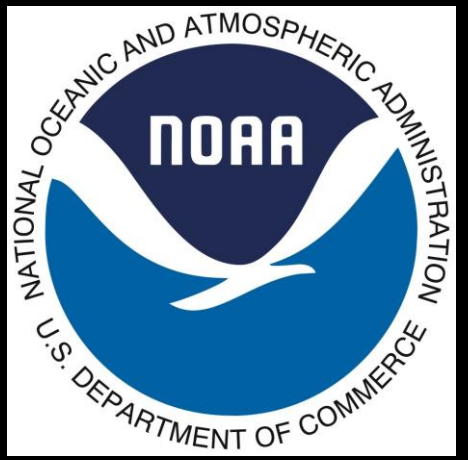
the project at the root of this

Knowledge to Action: An Assessment of the Transfer of Climate Science to Decision Making

Jennifer Rice
University of Georgia
Department of Geography

Connie Woodhouse
University of Arizona
School of Geography and Development

Sectoral Applications Research Program
provided funding for this work



how do collaborations between water resources practitioners and climate researchers actually happen?

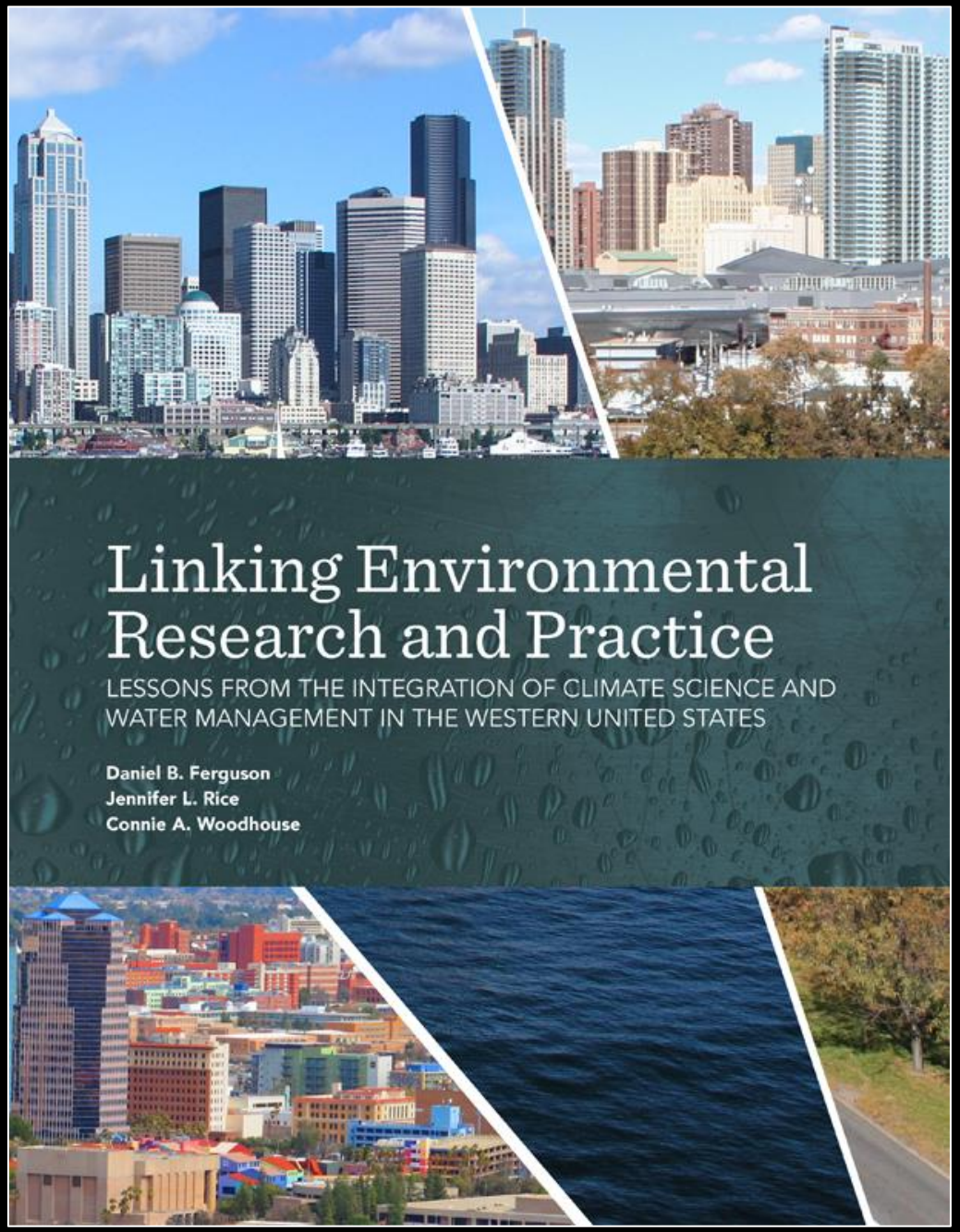
Seattle
Washing
Portland
Oregon
Idaho
Wyoming
North Dakota
Nevada
Utah
Colorado
Denver
United States
Kansas City
St. Louis
Illinois
Kansas
Missouri
Sacramento
San Francisco
San Jose
California
Las Vegas
Albuquerque
Oklahoma
Arkansas
Arizona
New Mexico
Mississippi
Dallas
Tucson
Ciudad Juarez
Texas
Google

our approach

~ 30 interviews with water resources pros and climate researchers with experience in science-management collaborations

formed and utilized a project advisory committee

final workshop with blend of initial project participants + experts not part of the project, but who have diverse experience with researcher-practitioner collaborations



For full report Google "linking environmental research and practice"

climas.arizona.edu/publication/report/linking-environmental-research-and-practice

an idea that emerged from that project

for science to better inform decision making, gaps between the communities needs to shrink

among the gaps

the question that needs to be answered

why that question (i.e., motivations)

how knowledge is produced, tested, evaluated, integrated (epistemic gaps)

among the gaps

the question that needs to be answered

why that question (i.e., motivations)

how knowledge is produced, tested, evaluated, integrated (epistemic gaps)

examples of why I think epistemic gaps exist and matter

"each scientist is so sure that their interpretation of the data [is] correct and…you've got these two opposing sides looking at the same set of data with this religious zeal and opposite directions."

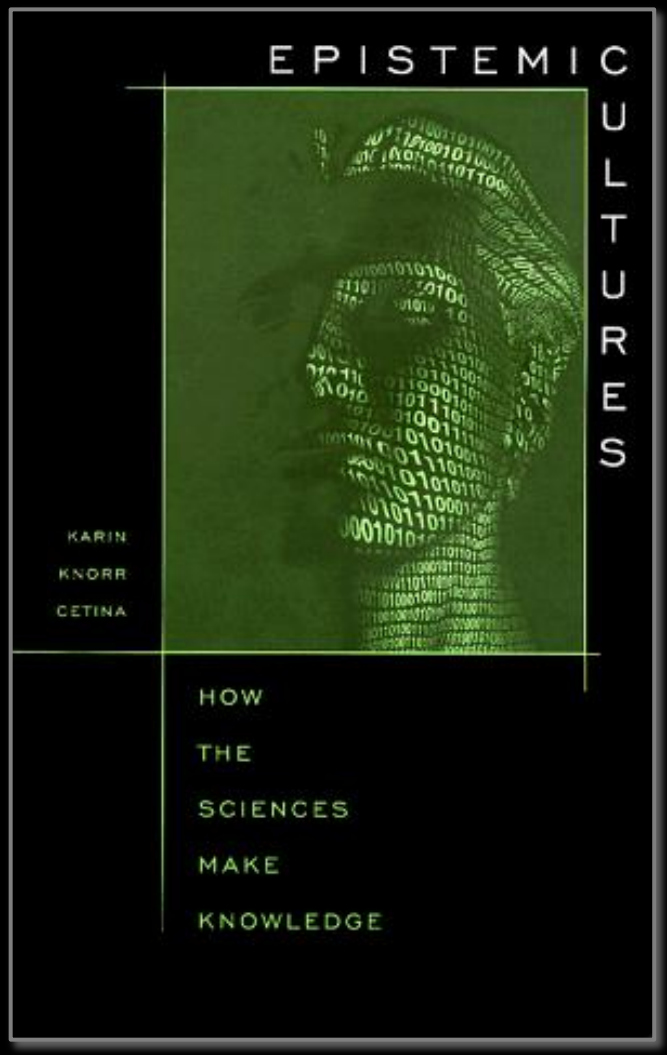
"I’ve run into the issue where a scientist…comes forward with their interpretation of data and by golly, that’s the way the world is....frankly what we do is just ignore them."

"I feel constantly like I am one step ahead of people out there in the water provider [world]."

a framework for thinking about epistemic gaps

Theoretical foundation:

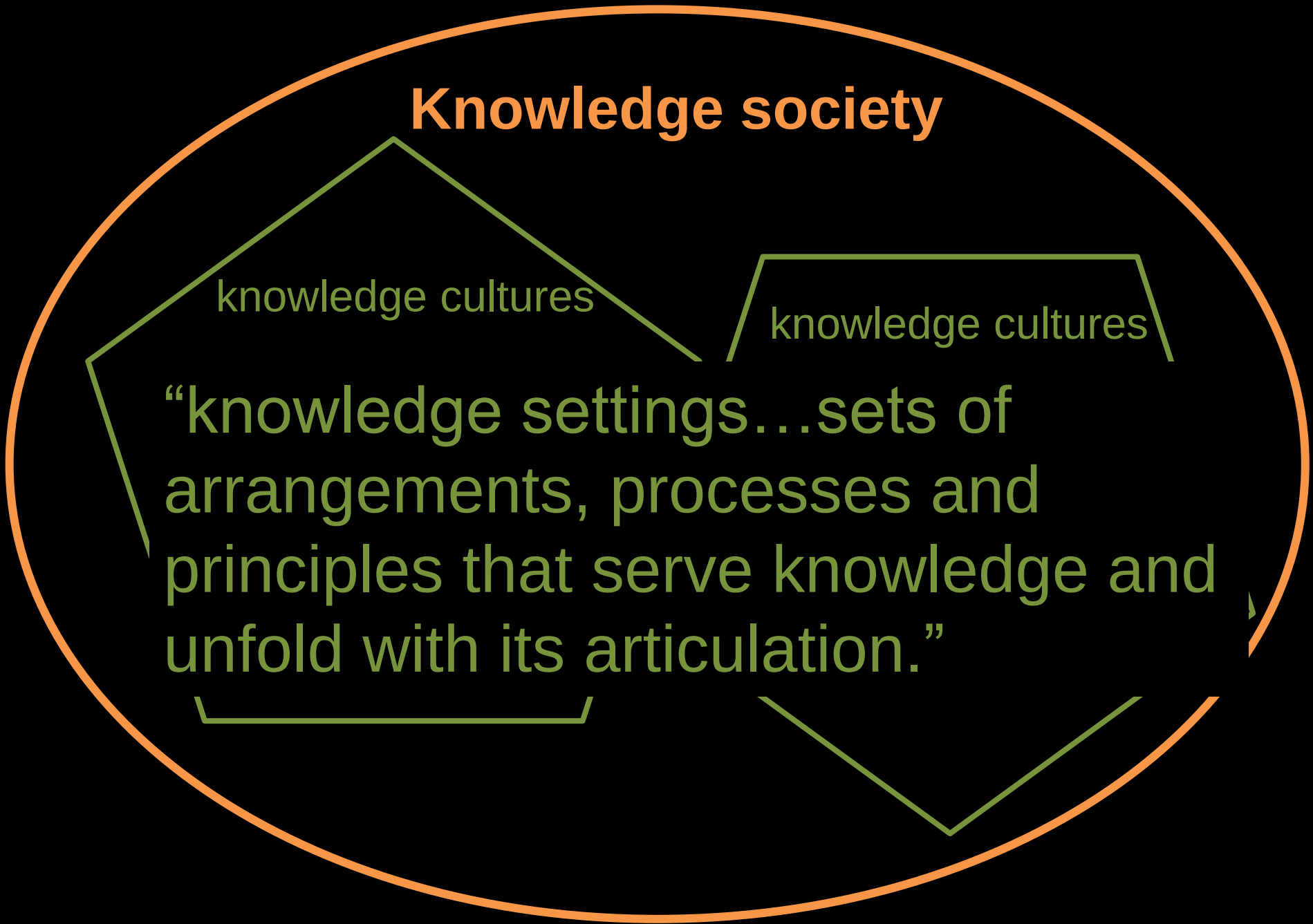
Knorr Cetina's ideas about how knowledge is created and validated in society



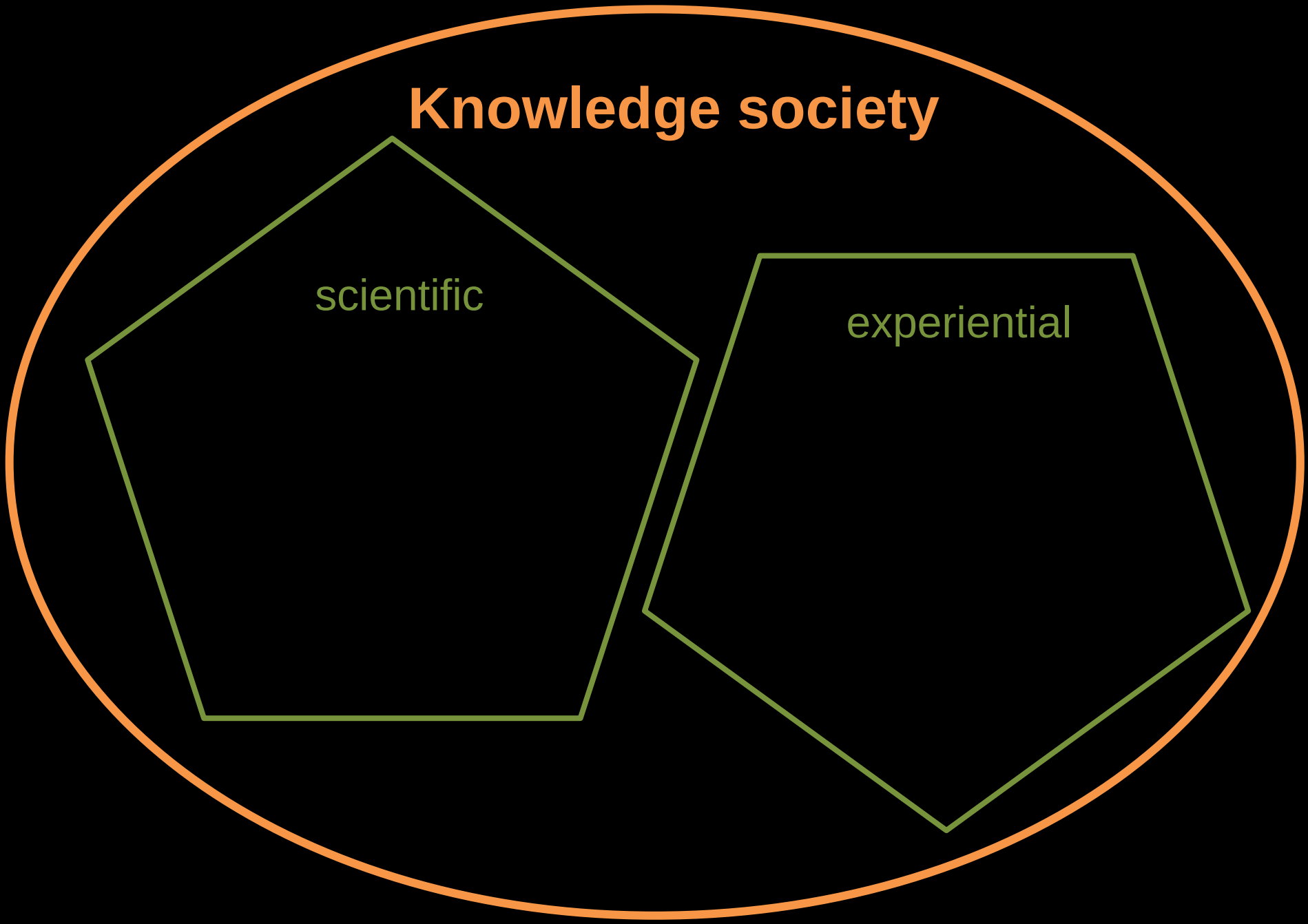
Knorr Cetina, K. 1999. *Epistemic cultures: How the sciences make knowledge*. Cambridge, MA: Harvard University Press.

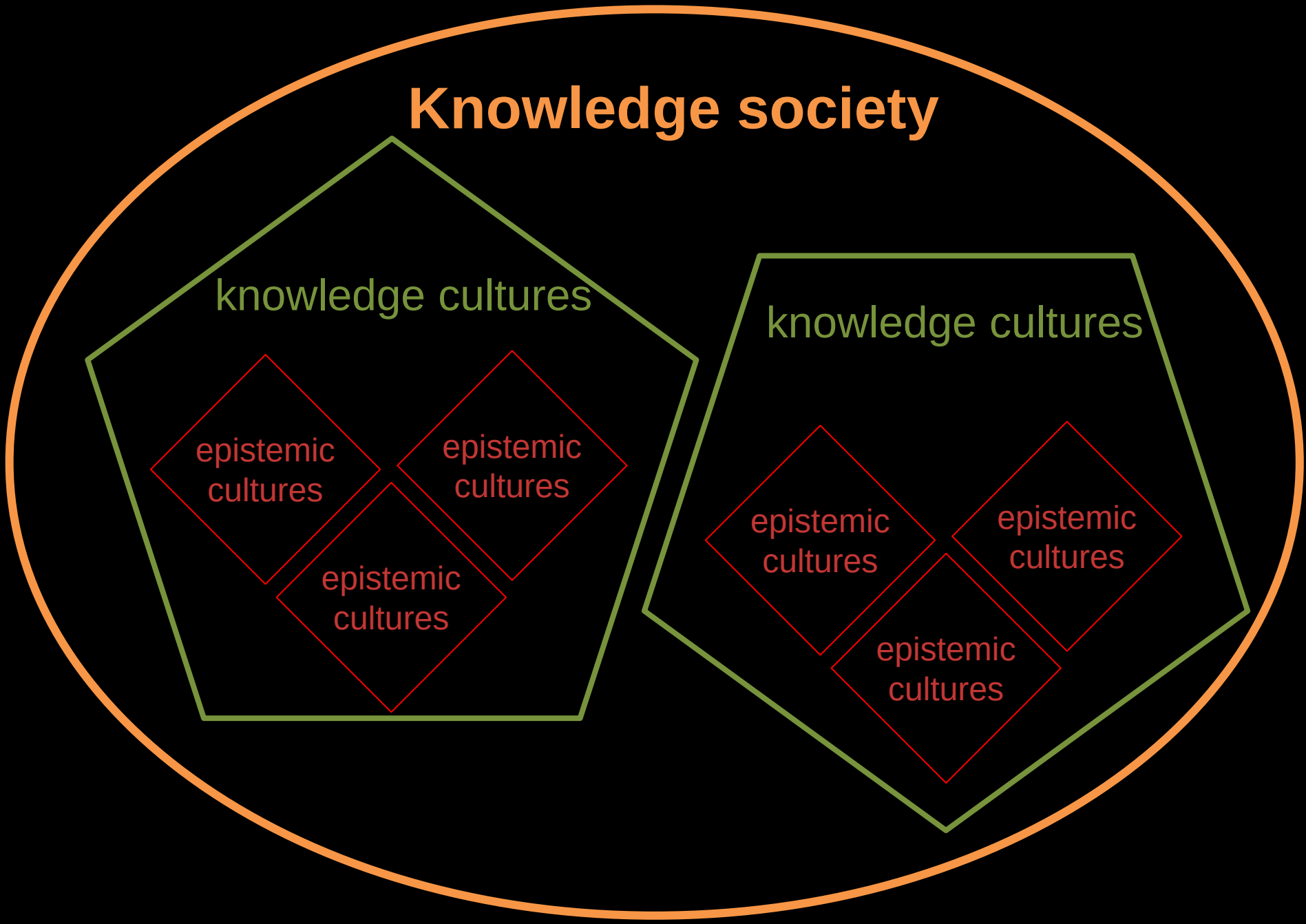
Knowledge society

knowledge as an engine of economic and social progress



Knorr Cetina, K. 2007. Culture in global knowledge societies: knowledge cultures and epistemic cultures. Interdisciplinary Science Reviews 32 (4):361-375.

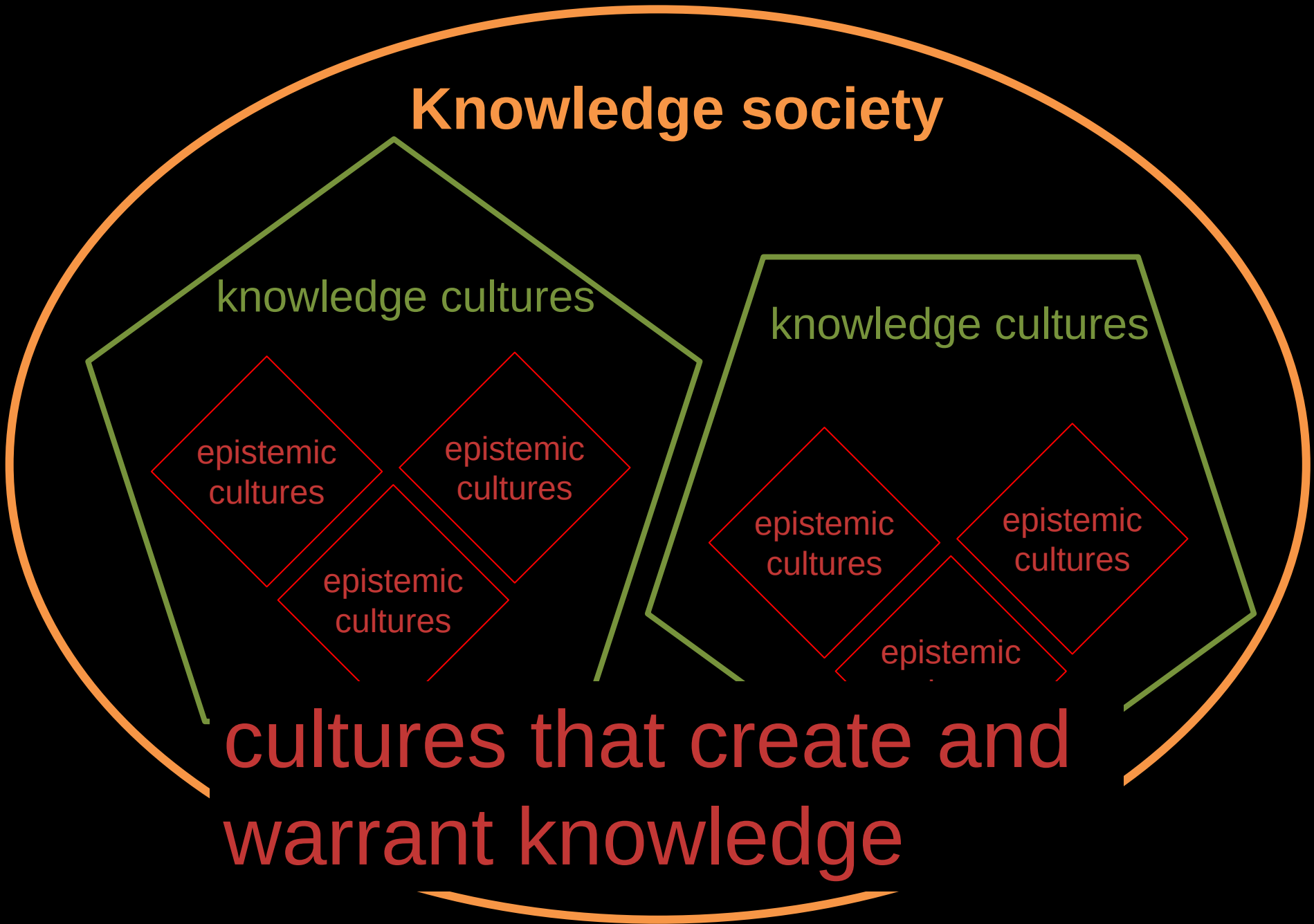

Knowledge society
scientific
experiential


Knowledge society
knowledge cultures
epistemic cultures
epistemic cultures
epistemic cultures
knowledge cultures
epistemic cultures
epistemic cultures
epistemic cultures

OED | Oxford English Dictionary
The definitive record of the English language

epistemology, n.

The theory of knowledge and understanding, esp. with regard to its methods, validity, and scope, and the distinction between justified belief and opinion.



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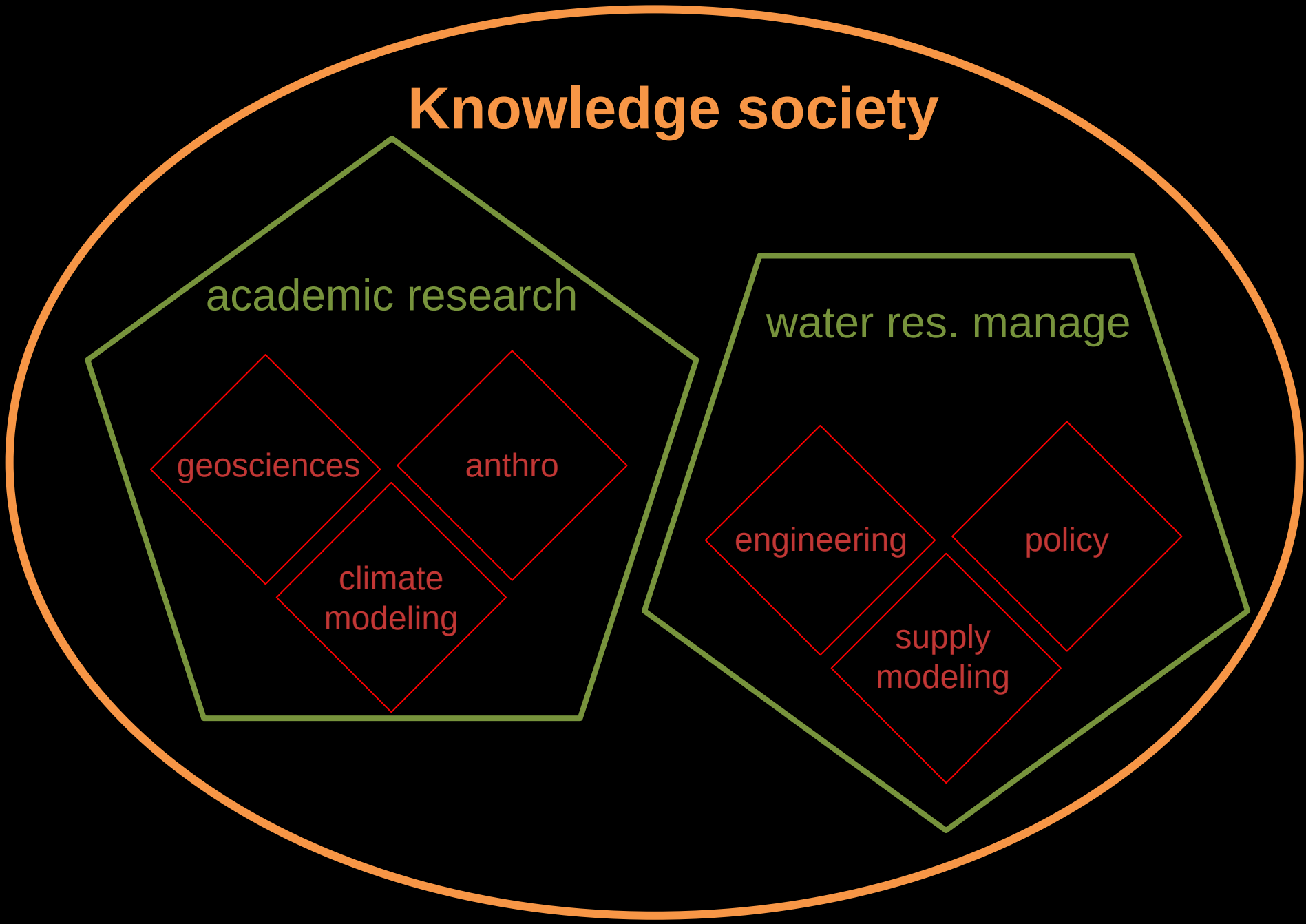
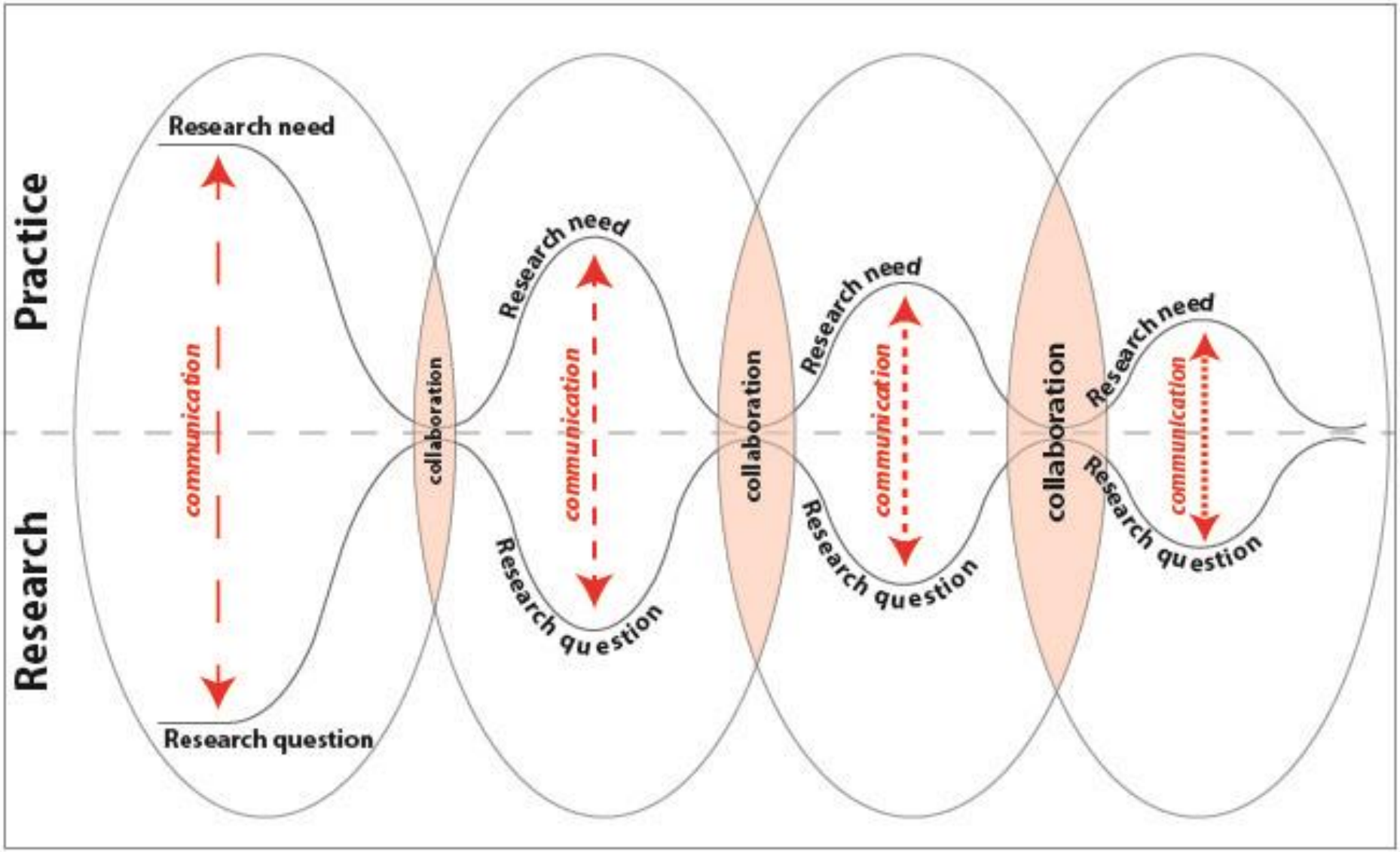
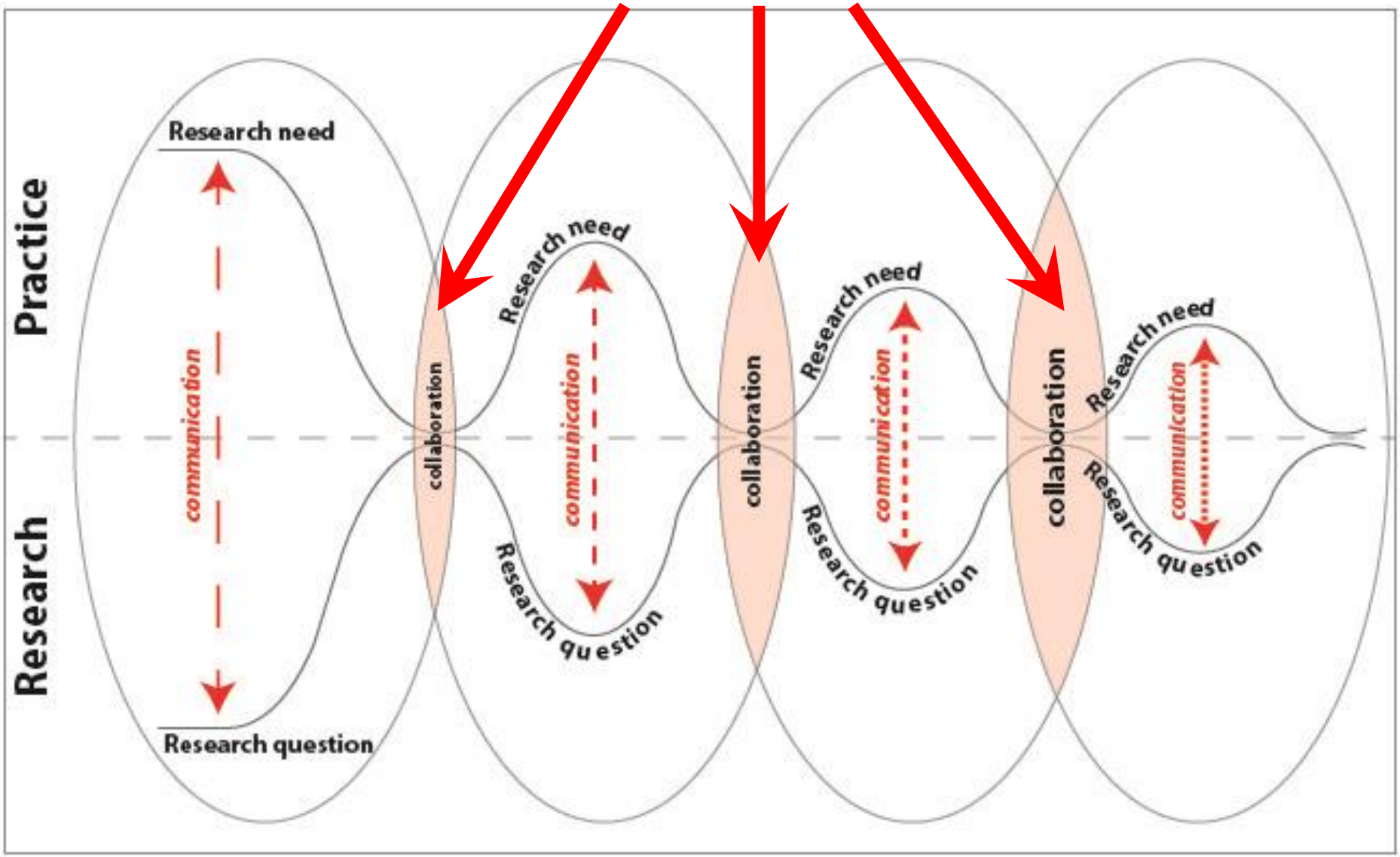

Knowledge society
academic research
geosciences
anthro
climate modeling
water res. manage
engineering
policy
supply modeling

Shrinking the distance between research supply and demand by growing collaborative space



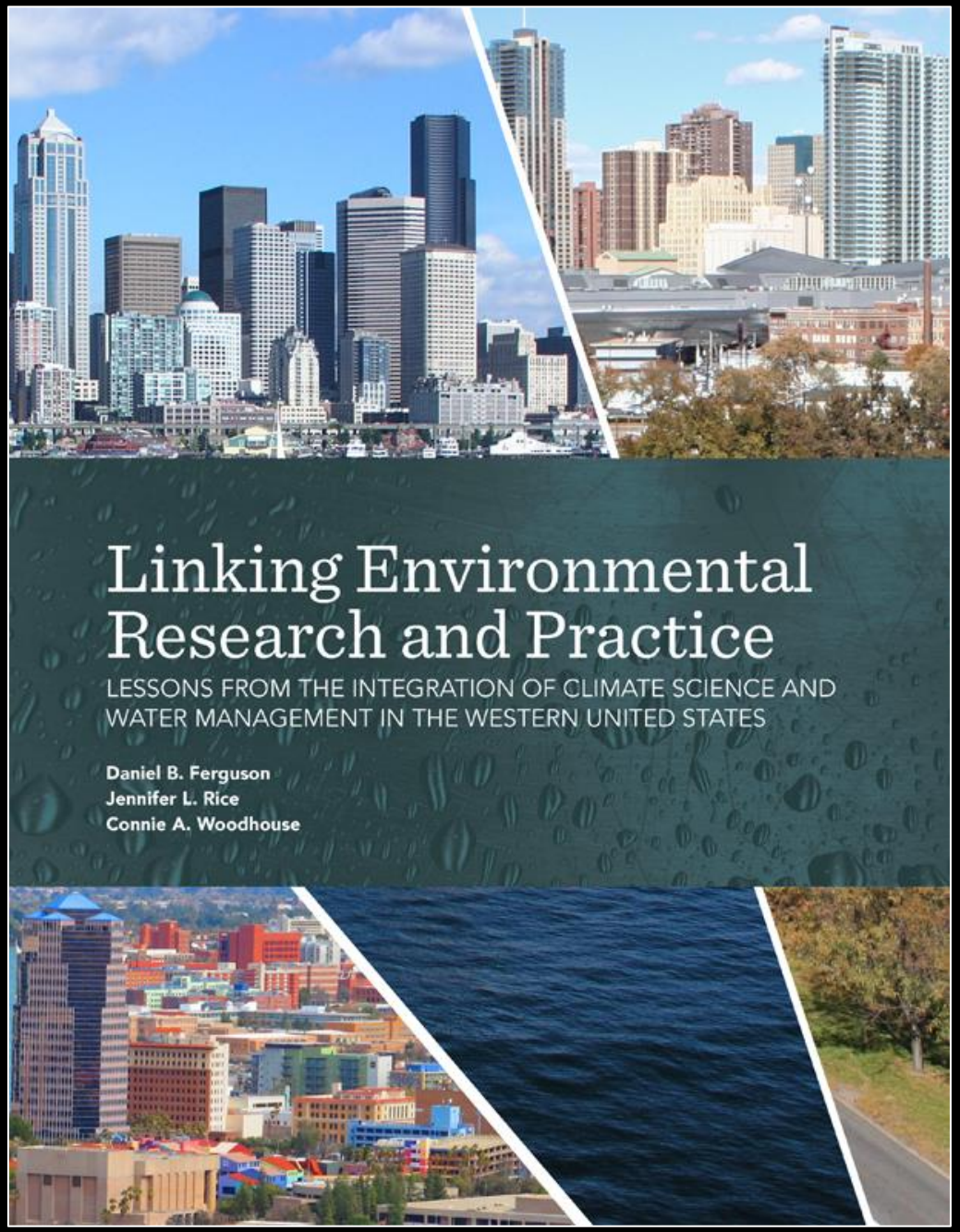
collaborative space creates opportunity for “epistemic pluralism”



my point?

when it comes to making research more useful, we often treat the symptom (lack of use) rather than the cause (our ways of knowing the world can be pretty different)

how to treat the cause



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ten heuristics* to guide scientist-practitioner collaborations

* Why heuristics?

Because they're not rules, they're not principles, they're not even guidelines. What follows are essentially ***rules of thumb*** based on the kind of trial-and-error learning that comes from experience.

Preconditioning activities can set the stage for collaboration.

Casual interactions may ultimately lead to a collaboration

Information brokers are often central to successful collaborations.

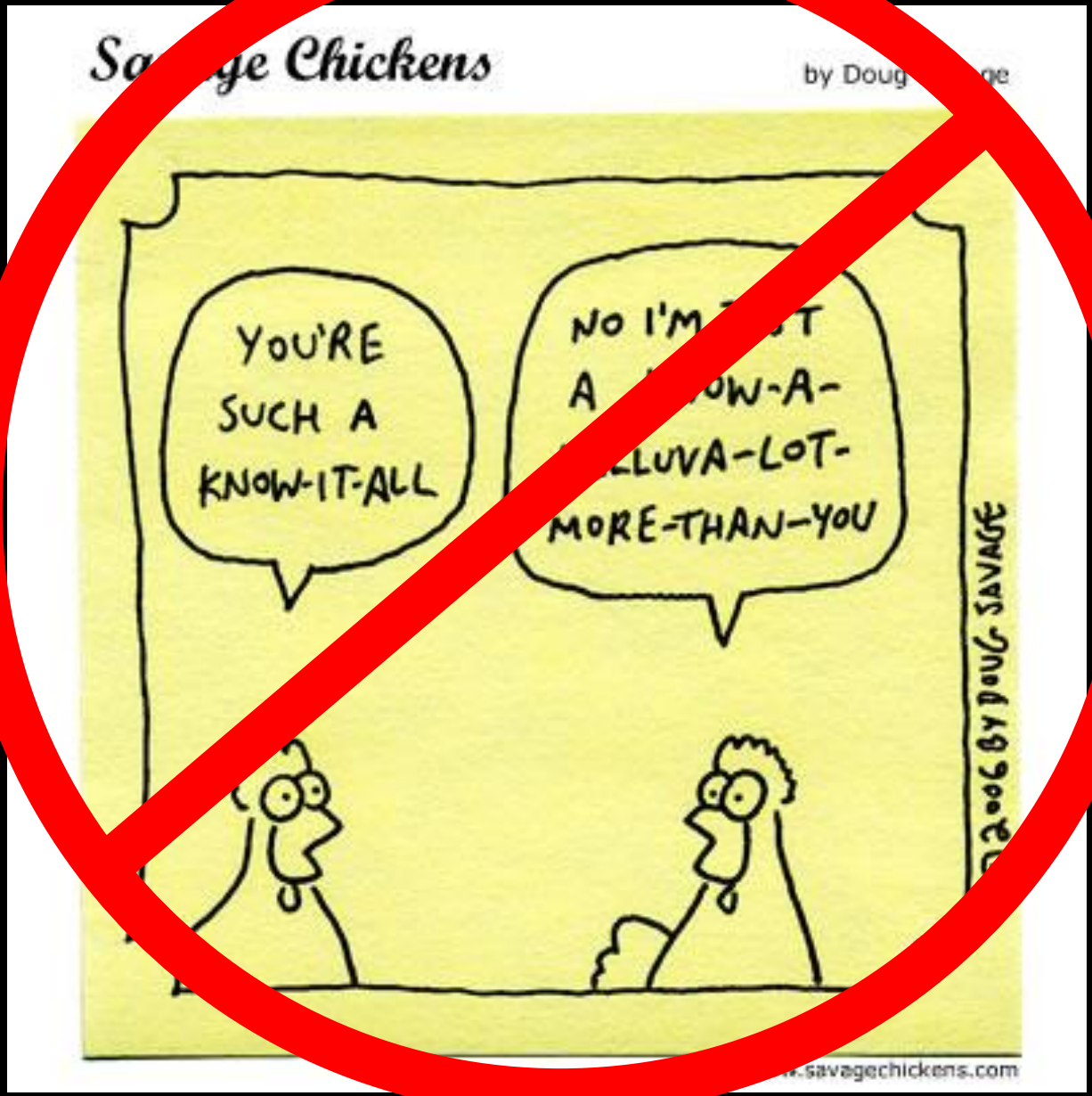
Mike Crimmins
U of AZ
Climate Extension Specialist

Brokers can place emerging research in the context of an existing body of knowledge, larger questions, management challenges, and management tools.

Laurna Kaatz
Climate Scientist
Denver Water Planning Division

Successful collaboration requires mutual respect.

Successful collaboration requires mutual respect.



a few conclusions from this work:

acknowledge that these conceptual and practical gaps exist

actively work to shrink the gaps

persistent and open communication can reduce the conceptual distance between the two communities

thank you

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